

Dual Enrollment

A STRATEGY FOR EDUCATIONAL ADVANCEMENT OF ALL STUDENTS

Dual enrollment is widely seen as a strategy to help advanced high school students begin college early. More recently, interest is growing in using dual enrollment as a way to smooth the transition to college for students traditionally underrepresented in higher education.¹ Many scholars and practitioners are coming to believe that high school students who have the opportunity to participate in college courses are more likely to enroll in college and succeed once there. But a number of questions surround this proposition:

- ▶ Can traditionally underrepresented students succeed in dual enrollment courses?
- ▶ What can be done to help them to succeed?
- ▶ What are the costs and benefits associated with dual enrollment for students, families, institutions, and taxpayers?
- ▶ What do we know about effective practices in online dual enrollment?

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DEFINITIONS

Dual enrollment, dual credit, and concurrent enrollment are terms that are sometimes used interchangeably. Here, they are defined as follows:

Dual enrollment refers to the opportunity for high school students to simultaneously enroll in both high school and college courses. Students who take college courses while in high school receive college credit but may or may not receive high school credit for college courses completed.

Dual credit is defined by a situation in which students receive both high school and college credit for college classes successfully completed.

Concurrent enrollment is an alternate term. It may refer to dual enrollment or dual credit options.

We prefer the term **dual enrollment** and use it throughout this report.

To begin to address these important questions, we compiled existing research to provide an overview of the different incarnations of dual enrollment, success factors for diverse populations, state policies that hinder or help widespread participation and costs and benefits including programs designed for a broad range of students and online dual enrollment programs. The intended outcome of all dual enrollment programs is to provide high school students with the opportunity to pursue college-level coursework while still in high school. But the programmatic purposes, location of classes offered, and educational designs vary widely.

Dual enrollment has multiple purposes. These include the following:

- ▶ **Advanced academic options for high-achieving students.** Dual enrollment programs were originally developed to provide high-achieving students with academically rigorous courses beyond those offered at the secondary level. Sometimes, this was viewed as a way for them to make better use of the senior year of high school. This continues to be the central purpose of dual enrollment nationally.
- ▶ **Preparing a skilled workforce.** An increasing number of policymakers, educators and researchers are promoting dual enrollment as an avenue for building a workforce with the knowledge and skills needed for the emerging globalized economy. With almost 80% of the nation's fastest-growing jobs requiring some postsecondary education, there is a growing recognition that a college education is necessary to prepare a workforce for the present and future economic realities. Dual enrollment is viewed as an important mechanism for encouraging students to enter college and meet the needs of the emerging job market.
- ▶ **Increasing college access.** There is mounting evidence that the opportunity to take college-level courses during high school increases the college participation rate of students who would not otherwise be college-bound, in part by familiarizing them with and preparing them for the academic expectations of college. To serve a broad range of students, programs may be targeted to:
 - Students traditionally underrepresented in higher education, including low-income, racially/ethnically diverse students and first generation college attendees.
 - Students with middle- to low-academic achievement.
 - Students at risk of dropping out.

¹ Traditionally underrepresented students include members of racial and ethnic minorities, low-income students, and first time college attendees. In addition, they may also include lower- and middle-achieving students who might not be college-bound.

Dual enrollment courses are true college courses. As with other college courses, delivery varies. Dual enrollment may be taught by regular college faculty members or by high school teachers with adjunct status at a college. In addition, dual enrollment courses may be offered in different locations:

- ▶ **High school-based college classes.** Nationally, 74% of college classes taken by high school students through dual enrollment programs are taught in the high school. This is, in part, because the costs of providing college courses in the high school are lower. These savings relate to the costs for instruction, program administration, and transportation of students to a campus. These classes are most commonly taught by high school teachers with adjunct professor status at a college or by regular college professors.
- ▶ **College campus-based classes.** Although relatively higher in cost, there are a number of advantages for students who take dual enrollment courses on a college campus. They allow students to experience the college environment and develop an identity as a college student. College professors teach the classes and the majority of students are college students, ensuring that high school students are fully introduced to collegiate-level academic expectations.
- ▶ **Online delivery.** Recent studies indicate that online learning options are increasing in school districts around the country. The Babson Survey Research Group reports that 70% of school districts responding to its survey had at least one student taking an online course in 2007-2008 and 47% of districts reported using postsecondary institutions as a provider of online courses. While there are no national data on the prevalence of online dual enrollment, these data suggest that there are likely to be increasing numbers of these courses offered online.

Dual enrollment program configurations vary based on program purpose and funding streams. Dual enrollment courses may be offered individually, in sequences, or as more comprehensive models.

- ▶ **Singletons.** According to research done by the Community College Research Center, dual enrollment is most commonly offered as singleton or cafeteria-style courses. These are regular college courses taken in no particular order or sequence. Examples of programs that encourage students to take singleton dual enrollment courses are Running Start in the state of Washington and Michigan's Postsecondary Education Options program. In these states, policies allow students to take these courses tuition-free and provide funding to the colleges that offer them. As little support is offered to students in these courses beyond that available to any college student, they are less likely to be a good option for academically underprepared students.
- ▶ **Sequences.** Alternatively, courses may be offered in a connected sequence in which students study progressively more advanced material. One example is New York City's College Now program, where students can study the college's developmental education (pre-collegiate) sequence in math or English while still in high school.

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They would not typically receive college credit for these courses. They could then continue into the college-level math and English courses where they would be able to earn college credit.

In Project Lead the Way (PLTW), an engineering sequence of dual enrollment courses, students take a series of five pre-engineering courses accompanied by four years of college prep math. College credit may be awarded if pre-arranged with a local college. At St. Louis Community College, for example, twelve hours of dual credit are awarded to students who complete the PLTW sequence at the high school.

Tech Prep and career pathways programs also offer sequences of courses that may include dual enrollment options. Sequential dual enrollment courses are more likely to be part of a larger initiative that includes student supports; this makes them more likely to be appropriate for academically underprepared students.

- ▶ **Early/middle college high schools.** In some cases, dual enrollment courses are embedded in small high schools such as middle or early college high schools. These schools are products of partnerships between school districts and postsecondary institutions. They are often located on college campuses and, in the case of early colleges, are designed to allow students to graduate from high school with 1-2 years of college credit

or even an associate's degree. This educational design frequently targets students underrepresented in college, and therefore provides varied kinds of supports to help students succeed in their college classes.

- ▶ **Emerging enhanced dual enrollment programs.**

Some emerging models of dual enrollment programs are designed specifically for traditionally underserved students. These include drop-out recovery programs such as Gateway to College in which students can earn high school and college credentials simultaneously. They also include programs in which high schools offer students opportunities to take multiple dual enrollment courses with accompanying academic and social supports. For example in Maine, Early College for ME is a transition program that provides high school seniors with opportunities to take a range of courses at their local or regional community college during their senior year during which they receive on-going academic support and advisement.

Student support systems are important for ensuring that high school students succeed in college-level courses.

This is particularly the case for dual enrollment programs designed for a broad range of students. There is considerable variation in the types of support services available. Student support services include the following:

- ▶ **Academic supports.** These consist of tutoring, computer based assistance, and other forms of extra help. In dual enrollment courses offered in the high school, the high school teachers usually provide academic support. In the case of dual enrollment programs that integrate the high school and college curricula, such as Early/Middle College High Schools, students receive academic support primarily through the high school. They also may have access to tutoring and other learning supports offered by the college.
- ▶ **Course re-configurations.** In some cases, high schools and colleges have worked together to configure courses in ways that improve the likelihood of student success. For example, since college courses typically meet three times a week, a high school teacher may provide supplemental instruction on the other two days of the week. Or a class may be extended to two semesters, rather than the normal one semester time period of college courses.
- ▶ **College preparatory initiatives.** Introducing students to the institutional structures and requirements for enrolling in college eases their transition to a college environment. College preparatory initiatives include assistance with college and financial aid applications,

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guidance in the process of selecting, applying to, and enrolling in college, “student success” courses, and introductions to the range of support resources available on the college campus.

- ▶ **Career exploration.** This type of support service is particularly associated with career and technical programs and may include career assessments, job shadowing, and work-based learning experiences.
- ▶ **Mentoring.** Mentors who establish a close personal relationship with a student can be one of the most effective ways to build the student’s confidence, as well as providing academic and social support. Mentors can be teachers or other school staff, community members, and business professionals. Peer support systems also are effective in supporting student success in pursuing rigorous academic courses.

State Dual Enrollment Policies

The most comprehensive study of dual enrollment and other accelerated learning options was conducted by the National Center on Educational Statistics (NCES) for the 2002-2003 school year. At that time, it was estimated that more than 87% of America’s public high schools offered their students the opportunity to earn college credit prior to graduation.

State policies and programs play a major role in promoting or deterring dual enrollment. While many individual colleges and universities independently develop dual enrollment programs, others have resulted from state initiatives. For many states, policy is oriented to encouraging high school students to engage in some form of accelerated learning, including advanced placement (AP) courses, the International Baccalaureate (IB) Diploma Program, dual enrollment, and selected career/technical education programs (e.g., career pathways, tech prep). An increasing number of states are including provisions for distance and/or online education within the scope of their accelerated learning options.

Regardless of the specific types and scope of dual enrollment options promoted, the preponderance of state policies are designed to provide advanced educational programs for high-achieving students. This is illustrated by the fact that many state policies include specific eligibility requirements for student participation in dual enrollment programs, including minimum grade point averages and/or scores on college placement exams.

Recently, however, there is growing interest among advocates and policymakers in promoting dual enrollment opportunities for students traditionally underrepresented in higher education, including low-income, racially/ethnically diverse populations, and first generation college-bound students. In addition, some states are adopting accelerated learning policies that focus on students at-risk for dropping out of high school.

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“
Allowing [high school] students to earn early college credit is an innovative policy to expand a state’s role in ensuring postsecondary access for more students.
”

From a study by the Knowledge Works Foundation and the Western Interstate Commission for Higher Education (2007)

The increasing emphasis on engaging a broader student population in accelerated learning is based on the premise that students’ educational aspirations and success will be enhanced through measures to increase the rigor of the high school curriculum, reduce the costs of college, and extend a wider range of academic courses to rural or economically disadvantaged school districts. Promoting dual enrollment is considered an effective approach to attaining multiple student achievement goals.

Because state policies are subject to annual change, it is difficult to track the current status of policies around dual enrollment nationally. The following table summarizes the key components of state dual enrollment policies based on the most recent available data (Education Commission of the States 2008).

The key components included in state policies consist of:

- 1 Indicating whether institutional participation in dual enrollment is mandatory or voluntary.
- 2 Delineating the types of colleges and universities that may offer dual enrollment.
- 3 Specifying the location of dual enrollment classes: e.g. high school-based, college-based or other.
- 4 Stipulating student eligibility requirements.
- 5 Specifying the number of dual enrollment credits students can earn.
- 6 Provisions for transfer of dual enrollment credit to institutions of higher education.
- 7 Requirements for maintaining consistent educational quality.

In addition, most state policies stipulate the basis of financial support for dual enrollment programs, which is summarized in the section of this report on the costs of dual enrollment.

SUMMARY OF KEY STATE DUAL ENROLLMENT POLICIES

| State Policy Components | | # of States |
|--|---|------------------------------|
| Scope of policy Statewide policy for dual enrollment exists Local district and institutional policies only | | 46 4 |
| Mandatory participation High schools and eligible public institutions of higher education must participate Voluntary partnerships between K-12 and higher education partners No specificity on mandatory/voluntary dual enrollment | | 12 21 9 |
| Types of college partners Community colleges only Both two- and four-year colleges can accept dual enrollment students No specificity about types of institutions that may accept dual enrollment students Policy supports participation in dual enrollment programs by private, proprietary, and tribal colleges | | 5 39 5 23 |
| Specificity of location of dual enrollment courses Only on college campuses Dual enrollment courses can be either in high schools or on college campuses Dual enrollment courses can be offered at locations other than high schools or colleges No specificity about location of courses | | 2 30 10 18 |
| Dual enrollment online Supported by state policies/practices | | 17 |
| Student eligibility | GPA Specifies minimum GPA as admission criterion for dual enrollment GPA specified under certain circumstances | 7 3 |
| | Grade level Students must be at least grade 11 Students are eligible at grade 10 Students are eligible from grades 9-12 Additional dual enrollment program for grade 12 | 20 2 9 3 |
| | Written approval/recommendation Written approval required Written approval only in certain circumstances | 22 3 |
| | College entrance requirements Dual enrollment students must meet entrance requirements | 25 |
| | Other eligibility requirements These include parental permission, pre-requisite high school courses and/or passing grades on state assessments Other criteria for only certain programs or under certain circumstances | 17 5 |
| Cap on dual enrollment credits States that have mandatory caps vary considerably from 2 courses to 30 semester credit hours per academic year High school students can enroll in college part- or full-time Colleges can determine caps on dual enrollment credit Credit caps in one program but no cap on other programs Cap on combined high school and college credit No state policies that limit dual enrollment credits | | 4 10 2 4 1 29 |
| Ability to earn dual credit Dual enrollment students can earn both high school and college credit for dual enrollment courses Only high school credit may be earned ² Only college credit may be earned ² Type of credit varies by type of program No specificity on type of credit | | 26 1 4 6 13 |
| Quality assurance Although policies vary, they may include provisions on: instructor qualifications and/or training for dual enrollment teaching; a requirement that instructors are appointed as adjunct faculty at colleges; reviews of course syllabi by college faculty. | | 29 |
| Requirements for transfer of credits All public two- and four-year colleges required to accept dual enrollment credit Institutions of higher education are not required to accept dual enrollment credit Public institutions must accept credit from one program but not others No clear policy on transfer of dual enrollment credit | | 15 15 2 18 |

² In this case students would participate in dual enrollment but not receive dual credit

Educational organizations, advocates, and policymakers around the country are increasingly interested in promoting dual enrollment opportunities for high school students.

The Benefits Of Dual Enrollment

Today's economic realities underscore the necessity of a college education for preparing students with the knowledge and skills needed in the globalized economy. Educational organizations, advocates, and policymakers around the country are increasingly interested in promoting dual enrollment opportunities.

Dual enrollment shows promise in addressing a range of educational issues and student needs. Over time, a wide range of possible benefits have been ascribed to dual enrollment, often with great enthusiasm. In addition to the advantages for students, many believe that high schools, colleges, employers, and the public (taxpayers) also will benefit from this educational model. The following are examples of the benefits associated with dual enrollment.

For all students:

- ▶ Enhancing the academic rigor of high school curricula.
- ▶ Providing students with a broader range of academic and career-oriented courses and electives.
- ▶ Offering students the opportunity to earn college credit while still in high school.
- ▶ Introducing high school students to college academic expectations and preparing them for college-level study.
- ▶ Making education more interesting and relevant, to the extent that students can take courses that relate to their interests or career goals.
- ▶ Facilitating the transition from high school to college.
- ▶ Improving students' prospects during the college admissions process as a result of college credits earned.
- ▶ Accelerating progression to college degree completion.
- ▶ Reducing the costs of college education by enabling students to earn college credits while in high school that are generally tuition-free.

For high-achieving students

- ▶ Providing greater academic challenges.
- ▶ Making more effective use of the senior year in high school.

For students traditionally underserved in higher education

- ▶ Increasing students' educational aspirations.
- ▶ Assisting low-performing students to meet high academic standards.

- ▶ Reducing high school dropout rates.
- ▶ Helping students to visualize themselves as “college material.”
- ▶ Better preparing students for college work and encouraging their enrollment in college.
- ▶ Reducing the need for remedial coursework in college.

Dual enrollment holds the potential to offer an onramp to postsecondary success for traditionally underserved students.

For high schools

- ▶ Expanding and enhancing the scope of the high school curriculum, particularly for small school districts and rural school districts.
- ▶ Increasing access to college resources and facilities.
- ▶ Improving relationships and coordination between high schools and colleges.
- ▶ Enhancing the alignment of the high school curricula with college admission requirements and the expectations of college faculty.

For colleges

- ▶ Enrolling better-prepared students.
- ▶ Reducing the need for remedial courses associated with longer times to degree completion.
- ▶ Expanding student recruitment opportunities.
- ▶ Strengthening ties to surrounding communities.

For employers

- ▶ Increasing the level of preparation of employees.
- ▶ Ensuring an appropriately skilled workforce for the increasingly globalized economy.

For the public

- ▶ Decreasing students’ time to degree completion, thus reducing the public funds needed to support students in college.
- ▶ Increasing the number of students who enter, and succeed in, postsecondary education. College graduates are more likely to contribute to the public good (paying taxes, voting) and less likely to require public resources (welfare, incarceration).

In fact, there is evidence to support some of these claims, but not others.

An emerging body of research has begun to document the actual outcomes of students who participate in dual enrollment during high school. However, there are important limitations to what research can tell us. Dougherty and Reid (2007), for example, point out that most studies of dual enrollment do not control for differences between students enrolling in dual enrollment programs and those who don’t. With this in mind, some conclusions can be drawn from existing research.

When compared with their peers, dual enrollment students were 12% more likely to enter college within seven months of graduation.

Dual enrollment's impact on student outcomes

Dual enrollment has been shown to increase the likelihood that traditionally underserved students will succeed in college. Further, dual enrollment holds the potential to offer an onramp to postsecondary success for traditionally underserved students. Notable evidence for this proposition emerges from research conducted by Karp, Calcagno, Hughes, Jeong, and Bailey (2007) based on administrative datasets from Florida and the City University of New York (CUNY). Using correlational research methods and controlling for key student characteristics such as race/ethnicity, gender, socioeconomic background, and previous academic attainment, they found that:

- ▶ Students who participated in dual enrollment were more likely to graduate from high school and enroll in college than similar students who did not participate in dual enrollment.
- ▶ Dual enrollment students persisted in college and earned more college credits three years after high school graduation than non-participants. Dual enrollment students earned 15.1 more college credits than their peers.
- ▶ The cumulative college GPA's of dual enrollment students three years after high school graduation were significantly higher than those of non-participants.
- ▶ The number of dual enrollment courses taken by students had little impact on college outcomes. The positive outcomes associated with dual enrollment remained the same regardless of whether dual enrollment students took one or more college-level courses.

Especially notable were the benefits that accrued to male students, low-income students, and those who were academically underprepared.

- ▶ Males and low-income students benefited more from dual enrollment participation than their peers.
- ▶ Students with lower high school grades benefited to a greater extent from dual enrollment participation than students with higher grade point averages.

Swanson (2008) conducted another study using a large federal dataset of 213,000 dual enrollment students who graduated in 1992. Results indicated that dual enrollment was associated with the greater likelihood of enrollment into, and persistence in, college. When compared with their peers, dual enrollment students were 12% more likely to enter college within seven months of graduation and 11% more likely to remain enrolled through the second year of college. Dual enrollment

students who entered college within seven months of graduation from high school were between 16% and 21% more likely to earn a bachelor's degree than non-participants.

Research conducted by Eimers and Mullen (2003) on four campuses of the University of Missouri System demonstrated the following impact of dual enrollment on college persistence:

- ▶ Students who had participated in dual enrollment were more likely to return for a second year of college. The 89% return rate of dual enrollment students for a second year of college was greater than the return rate of students who entered college with no previous college credit, a 76% return rate.
- ▶ The type of college offering the dual enrollment courses may make a difference in students' first year academic performance. Students earning dual credit from a two-year institution tended to earn lower first-year GPAs than those earning dual credit at four-year colleges and universities.

Dual enrollment program design features

To better understand which components of dual enrollment programs most effectively result in student success in college, Karp and Hughes (2008) conducted five in-depth case studies of dual enrollment programs in New York City. Their findings provide insights into the programmatic factors that may have the greatest benefit for a wide range of students.

- ▶ Student support systems are essential both before and during college courses for middle- and low-achieving students. Merely opening access to college-level coursework does not necessarily result in college enrollment and persistence for these student populations without additional support systems.
- ▶ Collaboration and communication across secondary and postsecondary systems are critical to ensuring the benefits of dual enrollment.
 - Aligning high school and college curricula is more effectively achieved through close collaboration across educational systems.
 - Widespread communication about program demands and curricular pathways is important to give students the tools that they need to succeed in dual enrollment courses and enroll in college.
 - Collaboration between high school teachers and college faculty can influence the development of high school curricula that ensures that all students are college-ready.

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Costs Of Dual Enrollment

Dual enrollment integrates two educational systems - K-12 schools and institutions of higher education. Cost considerations for supporting dual enrollment are significant to these two systems, as well as to students and families. They also are of vital concern to policy makers who control the state and local funds that pay for a great deal of the public education offered in the U.S.

Policymakers, educators, and students and their families often maintain that dual enrollment will result in cost savings by:

- ▶ Increasing the efficiency of the education system. Students who receive both high school and college credit for completing one course (dual credit) have saved time and money.
- ▶ Reducing time in college. When students enter college with a certain number of credits already completed, they may be able to complete their degrees sooner, thus reducing costs.
- ▶ Reducing the tax dollars used to support, assist, or sanction those who drop out of school.

Costs associated with dual enrollment must be considered from the perspective of each of the players involved: states and local governments, schools and school districts, colleges, and students/families. These perspectives have an impact on the policies that determine program costs and more specifically how the programs are financed.

States and localities pay most of the costs associated with dual enrollment, usually on a per-student basis.

| | Funding policies | # of states |
|--|---|-------------|
| Funding from states to participating high schools | Same level of funding for dual enrollment and traditional high school students | 31 |
| | Same level of funding, but with qualifications | 8 |
| | Less funding for dual enrollment students than traditional high school students | 4 |
| | Different levels, depending on the specific program | 1 |
| | Not specified | 6 |
| Funding from states to participating postsecondary institutions | Same level of funding for dual enrollment and traditional college students | 38 |
| | Same level of funding, but with qualifications | 2 |
| | Less funding for dual enrollment students than traditional college students | 1 |
| | Not specified | 8 |

The State and Local Government Perspective. States and localities pay most of the costs associated with dual enrollment, usually on a per-student basis. According to the Education Commission of the States (2008), states fund dual enrollment as follows:

The School District and Higher Education Perspective. For the most part, funding for dual enrollment students comes from local or state funds. In some cases, these funds follow the student to the college, creating a disincentive for the school to participate. In other cases, both the high school and the college are funded for dual credit courses, although this policy may be controversial. Nine states currently permit double funding of this kind (Golann and Hughes 2008).

While school districts receive all of their funds from public sources, this is not the case for colleges. Thus colleges expect to receive tuition as well as public support when students participate in dual enrollment courses. The source of these tuition funds varies a great deal. According to the Education Commission of the States (2008), the responsible party is shown below, per state policy.

A more stable funding stream could vastly improve access to dual enrollment.

| Who pays tuition? | # of states |
|--|-------------|
| Students or parents | 22 |
| School district | 6 |
| College | 3 |
| The state department of education | 3 |
| Varied parties, depending on the program | 4 |
| Not specified | 6 |

Student and Family Perspective. As noted above, students must often pay for tuition and fees as well as books and transportation. This can be a considerable disincentive to participate, especially for lower- and middle-income students and families. Clearly, they must weigh the costs of tuition against possible benefits, such as improved preparation for college and having a certain number of credits already in hand when matriculating into college.

In a number of cases, however, funds are available to cover the college tuition costs. A common strategy to support students' costs is tuition remission by the college. Other sources include the following:

- ▶ In Georgia, students may apply for tuition support from the HOPE Scholarship fund, established with revenues from the state lottery.
- ▶ In California, the Board of Governors of the California Community Colleges created a tuition waiver for dual enrollment students to ensure that no high school student pays for college attendance.
- ▶ The City University of New York (CUNY) has a long-standing partnership with the New York Department of Education to provide a range of college preparation and dual enrollment options to New York City high school students. The CUNY system waives tuition for students taking college courses.
- ▶ In Ohio, the Post Secondary Options Program finances college tuition, fees and other costs (e.g. books) for high school students in dual enrollment courses by transferring a portion of the state's public school per-pupil allocation to the college.

As indicated in a recent report of the Education Commission of the States (2009), the funding picture for dual enrollment varies a great deal from state to state, and locality to locality. As a result, access to dual enrollment opportunities varies a great deal. In some places, any interested student can participate for free; in others, students must pay tuition costs. Schools that lose funding when students take college courses may be reluctant to encourage their participation. Colleges that are not fully funded for the high school students that they serve are unlikely to offer dual enrollment courses. A more stable funding stream could vastly improve access to dual enrollment, resulting in greater benefits of the kind described earlier.

Online Dual Enrollment

Online dual enrollment has only recently begun to receive attention among educators and policymakers as an educational model with potential for reaching a wide range of students. It is seen as an especially valuable way to serve students in rural areas and in other school districts that lack either the funds or ready access to college partners. According to the Education Commission of the States (2008), there are 17 states where, in policy or practice, online dual enrollment programs exist. However, beyond this, little is known about the actual incidence of online dual enrollment nationally. There are neither comprehensive studies documenting the scope of online dual enrollment nor studies of student outcomes.

A search of the web reveals that online dual enrollment has, in fact, become widespread. A wide range of public, private, and for-profit colleges list themselves as providers of online dual enrollment courses. Their information is targeted to multiple audiences: regular high school students and their families, home-schooled students, and students wanting to accrue a few final credits needed for high school graduation. In addition, there are a number of virtual high schools that include dual enrollment options among their listings.

Recent research on online learning at both the higher education and K-12 education levels provide the basis for some educated assumptions about the prevalence of online dual enrollment. From these studies, as well as from case examples of online dual enrollment programs, it is possible to make some statements about the current status and potential growth of online dual enrollment.

K-12 Online Learning

To better understand the scope of online learning in the United States, the Babson Survey Research Group conducted two national studies of online learning in K-12 schools. While there is growing literature on online learning in higher education and approximately 22% of the higher education student population is enrolled in fully online courses, less is known about online learning in K-12 schools (Picciano and Seaman 2009). Key findings of the most recent (2007-08) study include the following:

The vast majority of American school districts are providing some form of online learning for their students, and more plan to do so within the next three years.

- ▶ 70% of school districts had one or more students enrolled in a fully online or blended course. This represents an increase of approximately 10% in online/blended course offerings, and a 47% increase in online students since 2005-2006.
- ▶ The greatest number of students (69%) enrolled in online learning are at the high school level.
- ▶ 66% of school districts expect growth in their fully online courses and 61% expect growth in their blended course enrollments.

In Fall 2008, a total of 4.6 million students were enrolled in at least one online course, which represents more than one in four students.

The vast majority of American school districts are providing some form of online learning for their students, and more plan to do so within the next three years.

School districts reported that online learning is designed to meet the specific educational needs of a wide spectrum of students:

- ▶ Assisting students who need extra help and credit recovery.
- ▶ Permitting students who failed a course to take it again.
- ▶ Reducing scheduling conflicts for students.
- ▶ Offering courses not otherwise available at the school.
- ▶ Offering Advanced Placement and/or college-level courses.

Rural school districts identified the greatest need for online learning. Online learning serves as a cost-benefit mechanism for small rural school districts to provide students with course choices and in some cases even basic courses that would not otherwise be available to them.

School districts use multiple providers for their online courses. The majority (82%) of school districts select multiple online learning providers depending on their needs, rather than contracting with one provider. However, institutions of higher education represent the largest category of online provider, utilized by 47% of school districts. A U.S. Department of Education (2008) study estimated that in 2006-2007 more than 500 colleges and universities (approximately 12% of higher education institutions) provided distance learning services to K-12 school districts. However, not all of the courses provided are necessarily at college-level.

Implications for Online Dual Enrollment

Clearly, there exists a significant information gap in the extent to which online learning in these two educational systems overlaps in the form of dual enrollment. However:

- ▶ Institutions of higher education are the largest category of online learning providers for K-12 education. While data do not exist on whether the courses provided by colleges and universities to K-12 school districts are college-level courses, researchers compiling these data suggest that this is indeed the case (e.g. Picciano & Seaman, 2009).
- ▶ High school students represent the largest percentage of online course enrollments at the K-12 level.
- ▶ Almost 70% of districts indicated that online courses are important for providing students with advanced placement or college-level courses.

While further research to document the prevalence of online dual enrollment is urgently needed, these data suggest that a large percentage of high school students enrolled in online courses are taking college-level courses.

Examples of Online Dual Enrollment Programs

The majority of online dual enrollment programs appear to be the independent initiatives of specific colleges. However, there are several states that are explicitly concerned with making online dual enrollment available. These include:

The Florida State Department of Education. Florida actively promotes local school district participation in the state dual enrollment program. This program is seen as key to meeting the state's goals for seamless articulation between secondary and post-secondary education and for high student achievement. Online courses provided through partner institutions of higher education are included in the list of courses approved by the state for dual enrollment.

North Carolina Learn and Earn Online. Through the recently established online component of its successful dual enrollment program, North Carolina promotes opportunities for public high school students to earn online college credit courses at no cost to them. They also allow qualified non-public school students to do the same for only the cost of textbooks and supplies. The North Carolina Community College System (NCCCS) and The University of North Carolina at Greensboro (UNCG) provide the college courses.

Massachusetts Consortium: Massachusetts Colleges Online, a consortium of 24 state and community colleges, provides high school students with access to hundreds of online college courses for which they pay in-state tuition. Courses are interactive, allowing students and professors to communicate via email and online discussions. Live tutoring is available in math, while writing labs offer assistance to both native English speakers and ESL students. The initiative is fully supported by the Massachusetts Board of Higher Education. According to former Chancellor Judith Gill, "The online dual enrollment program is an excellent way for students to be introduced to college-level work while in high school. It provides access for students, reduces costs, and shortens the time to completing a degree or certificate (Golann and Hughes 2008)."

Virginia Community College System. Online courses are a part of the overall dual enrollment program in Virginia. Individual community colleges, in conjunction with school districts, decide what courses and delivery methods will be available to local high school students.

The prevalence of online learning in higher education provides clear evidence that this educational option has become an accepted part of most institutions.

Students in these programs experience themselves as real college students and gain confidence and skills that can help them to excel academically

In addition, numerous individual colleges and universities have added online options to their existing dual enrollment programs. A review of the entries in response to a web search of “online dual enrollment” suggests that these opportunities are widely available. In virtually all cases, it appears that online dual enrollment students are treated identically to regular college students enrolled in online courses. They follow the same procedures to enroll, they fulfill all course requirements, and they have access to the same kinds of supports.

This may be part of a trend in which online programs look for ways to market their offerings to a wider audience, including the regular college student population, high school students, employers wanting to provide employee training, and adult education students.

Online Dual Enrollment for Traditionally Underserved Students

As we have seen, traditionally underserved students can benefit from dual enrollment experiences, but often need extra assistance. With online college courses, students have been found to be at greater risk of failure than students who take the same courses in a traditional, face-to-face format (Jaggers and Xu, 2010). Successful participation in online courses requires students to be more motivated, organized, independent, and technologically adept than students in traditional courses.

Thus, there is a possibility that less academically capable high school students could be attempting to succeed in college while also trying to overcome the challenges associated with online learning formats. To avoid this possibility, it is important to proceed with caution. One approach would be to engage students in blended learning opportunities in which some level of face-to-face interaction occurs. Another approach would be to carefully structure student experiences. For example, a high school teacher could oversee a lab in which a group of students are engaged in an online college course, providing needed guidance and support. As these scenarios unfold, it is also important to begin carefully evaluating the approaches as they are tried in order to move toward an understanding of how to best support student success.

Conclusions

This report highlights evidence that dual enrollment is widespread, and is often used to introduce high school students to the reality of college coursework. While it has been traditionally targeted to higher-achieving students, dual enrollment has more recently been used to help students traditionally underrepresented in college become college-ready. There is evidence that dual enrollment helps a wide range of students to be more successful in college. Students in these programs experience themselves as real college students and gain confidence and skills that can help them to excel academically. Further, state policies often are pivotal in facilitating or hindering the spread of dual enrollment.

Throughout this study, in our examination of research on dual enrollment programmatic options, state policies, potential benefits of dual enrollment, and promising practices, we identified a significant need for better data on the extent and variety of dual enrollment programs in the United States. In particular, there is no national level data on online dual enrollment. While policymakers and educators have expanded access to dual enrollment to a broad range of students based on a number of premises about the benefits of this educational model, additional research is needed to more fully document these benefits for all students.

Traditionally underserved students can benefit from dual enrollment experiences, but often need extra assistance.

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